1880MNRAS..40..161.

The correction of the observations which takes into account the extinction of light in different zenith-distances may be diminished or avoided in case it is feasible to observe at the times when both objects are at the same zenith-distance. *Mars* and *α Orionis* allow this to be done till the beginning of March. If the angle τ is found from $\sin \tau = \nu \tan .$ latitude, and expressed in time, the two bodies will be at the same altitude at the local sidereal time $\theta_0 + \tau$. The values of $\log \nu$ and θ_0 are given for 8^h G.M.T. in the following table, together with the times of the occurrence at Greenwich:—

Mars and *α Orionis.*

8^h Gr.	log ν.	θ_0. h	m	At Greenwich. h	m	h	m	°
Feb. 18	9·7387	4	20·8	7	15 Sid.T.=	9	24 M.T.	47·5 Z.D.
22	9·7810	4	20·9	7	34	9	26	49·2
26	9·8259	4	20·5	8	5	9	41	52·5
Mar. 1	9·8744	4	19·2	9	0	10	19	59·0
5	9·9264	4	16·7	...		...		...

Mars and *α Tauri* will not be observable in this way in our latitudes. But *α Tauri* and *α Orionis* will be at the same zenith-distance, if τ is found by $\sin \tau = [9{\cdot}6506]$ tan. latit., at $4^h\ 47^m{\cdot}6 + \tau$ local sidereal time, or for the latitude of London, at $7^h\ 4^m$ sidereal time, the zenith-distance being 46°·8.

Observation of the Outer Satellite of Mars, made at the Royal Observatory, Greenwich.

(*Communicated by the Astronomer Royal.*)

The following micrometer measures of *Deimos* were obtained with the great Equatoreal (12¾ inches aperture) on the evening of 1879, November 12. It was also seen for a few moments on November 7, but no measures could be obtained on that occasion. The inner satellite, *Phobos*, was never seen.

1879, Nov. 12.

Measures of Distance.

Greenwich Mean Solar Time. h	m	s	Greenwich Sidereal Time. h	m	s	Distance in Arc. ″
11	24	21	2	51	12	66·47
11	49	27	3	16	22	62·77
12	23	3	3	50	4	60·46
12	44	45	4	11	49	58·14

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1880MNRAS..40..162D

Measures of Position.

Greenwich Mean Solar Time. h	m	s	Greenwich Sidereal Time. h	m	s	Position-angle. °	′
11	17	4	2	43	54	229	34
11	44	45	3	11	39	228	8
12	15	30	3	42	29	226	21
12	39	36	4	6	39	226	27*

The satellite, once found, was an easy object at greatest elongation. It became very difficult before the last observations, as the definition was then much impaired. It bore a fair amount of illumination in the field, but the measures were taken in a dark field, the wires only being bright. The determination of the position-angle was much more difficult and less certain than that of the distance. *Mars* was observed through a dark glass, which was placed in front of the eye-piece and covered half the field. Power employed, 295.

Observer, Mr. Maunder.

Royal Observatory, Greenwich,
1880, *Jan.* 9.

The Greenwich Standard Right Ascensions.

By A. M. W. Downing, Esq.

The Greenwich Standard Right Ascensions now in use are based on a determination of the right ascensions of clock-stars in which only those observations were included where the group of clock-stars extended over 12 hours at least. These results would presumably be independent of the assumed places of the clock-stars, and may be considered as the best standard places of fundamental stars which can be obtained from the Greenwich observations in the years 1868 to 1876.

These right ascensions are given in the Introduction to the Greenwich Nine-Year Catalogue.

I have thought that it would be interesting and instructive to compare these Greenwich places with the right ascensions of the fundamental stars as given by some of the most eminent authorities, in order to show the differences that exist, not only in the adopted equinoxes of the several Catalogues, but also in the places of individual stars. For this purpose I have selected for comparison the Standard Catalogues published by Newcomb, by Gyldén, and by Auwers. Newcomb's Catalogue is given in the volume of *Washington Observations* for 1870, Gyldén's in the *Monthly Notices* for 1875, May, and Auwers' in the *Publication der Astronomischen Gesellschaft*, No. xiv.

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* Rough bisection; satellite becoming very difficult to observe.

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